



IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Peter M. Martino

Confirmation No.:

Application No.: 10/652,847

Examiner:

Filing Date: 08/29/2003

Group Art Unit:

Title: SUBSTRATE REINFORCING IN AN LGA PACKAGE

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97 (c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:  
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☐ I hereby certify that this paper is being transmitted to the Patent and Trademark Office facsimile number \_\_\_\_\_ on \_\_\_\_\_  
Number of pages: \_\_\_\_\_

Typed Name: **Rhonda Zaffino**

Signature: Rhonda Zaffino

Respectfully submitted,

**Peter M. Martino**

By Adam E. Crall

**Adam E. Crall**

Attorney/Agent for Applicant(s)  
Reg. No. **46,646**

Date: **10/22/2003**

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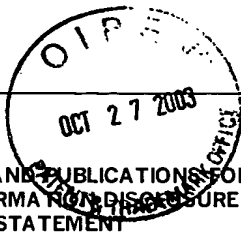
## PATENT APPLICATION

Sheet 1 of 3

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)



ATTY. DOCKET NO.

200309657-1

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GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	6,596,561	7/22/2003	Takahashi et al.	
	1B	6,583,040	6/24/2003	Lin	
	1C	6,531,947	3/11/2003	Weaver et al.	
	1D	6,529,023	3/4/2003	Becker et al.	
	1E	6,528,892	3/4/2003	Caketka et al.	
	1F	6,490,161	12/3/2002	Johnson	
	1G	6,477,058	11/5/2002	Luebs et al.	
	1H	6,384,487	5/7/2002	Smith	
	1I	6,333,460	12/25/2001	Toy et al.	
	1J	6,320,267	11/20/2001	Yukawa	
	1K	6,312,791	11/6/2001	Fasano et al.	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	Greenzweig, Yuval, "Micro-Surgery of C4 Microprocessors and Future Developments," Intel Corporation, MTM, Haifa, Israel (2 pages). ✓
	1R	IBM Corporation, "Flip-chip packaging services," Hopewell Junction, New York, April 2003 (4 pages). ✓
	1S	IBM Corporation, "Multilayer ceramic (MLC) packaging," Hopewell Junction, New York, April 2003 (4 pages). ✓

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## PATENT APPLICATION

Sheet 2 of 3

FORM PTO-1449

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	2A	6,222,263	4/24/2001	Sherif et al.	
	2B	6,191,480	2/20/2001	Kastberg et al.	
	2C	6,113,399	9/5/2000	Hundt et al.	
	2D	5,677,247	10/14/1997	Hundt et al.	
	2E	5,650,593	7/22/1997	McMillan et al.	
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	2K				

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	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

2Q	Intel, "Chip Scale Pack for Intel Flash Memory Devices - Packaging Overview," <a href="http://www.intel.com/design/flcomp/PRODBREF/298113.htm">http://www.intel.com/design/flcomp/PRODBREF/298113.htm</a> (visited August 13, 2003) (4 pages). ✓
2R	Intel, "Semiconductor Technology and Manufacturing," <a href="http://www.intel.com/technology/itj/2002/volume06issue02/art07_emergingdirections/p06...">http://www.intel.com/technology/itj/2002/volume06issue02/art07_emergingdirections/p06...</a> (visited August 13, 2003) (3 pages). ✓
2S	Mahajan, Ravi, Raj Nair, Vijay Wakharkar, Johanna Swan, John Tang, Gilroy Vandentop, "Emerging Directions for Packaging Technologies," Intel Technology Journal, Vol. 6, Issue 02, May 16, 2002 (pages 62-75).

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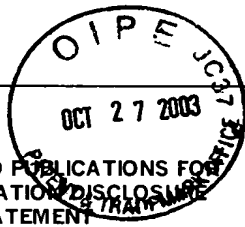
## PATENT APPLICATION

Sheet 3 of 3

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	3L					
	3M					
	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

3Q	"Packaging Information - Package Reference Guide," <a href="http://www.icw.ave.com/technical/docs/package/guide.htm">http://www.icw.ave.com/technical/docs/package/guide.htm</a> (visited August 13, 2003) (4 pages).	✓
3R	Tyco Electronics, "Metallized Particle Interconnect Applications Guide," North Attleboro, Massachusetts (pages 1-9).	✓
3S	Vicich, Brian and Sai Uppuluri, "Nonlinear Analysis Helps Design LGA Connectors," <a href="http://connectorspecifier.printthis.clickability.com/pt/cpt?action=cpt&amp;expire=&amp;urlID=408...">http://connectorspecifier.printthis.clickability.com/pt/cpt?action=cpt&amp;expire=&amp;urlID=408...</a> (visited August 13, 2003) (4 pages).	

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